

CROSS REF. NO.

942.3

NONSTOCK MATERIAL REQUIREMENT

33706

650-L (9-83)

MATERIAL CONTROL USE ONLY		ORDER NO.	DATE	ORDER NO.	DATE	ORDER NO.	DATE	
TRANS	WHSE NO	ORDERED BY	APPROVED	CREW NO.	ORIGINATING ORG UNIT	DATE		
51		Tim Croll	<i>[Signature]</i> Jim Fletcher		601	3/13/86		
DELIVER TO (LOCATION)			PROGRAM ELEMENT	BUDGET ITEM	ORG UNIT CHARGED	WORK ORDER/ACCT NUMBER	LETTER	
SSC			9101	101	654	Swo 62673-00		
QUANTITY REQUESTED	UNIT	ESTIMATED UNIT COST	DESCRIPTION			DASH NO.	QUANTITY DELIVERED	BACK ORDERED
1		25,000	MET-L-X DRY CHEMICAL EXTINGUISHING <i>system per Spec.</i>					
			fire protection for Lake Union Steam Plant.					
			PCB decontamination project.					
			See attached Specs.					
			<u>Suggest Purchasing approach:</u>					
			Ansul Fire Protection					
			2099 Arnold Industrial Way, Suite D					
			P.O. Box 6007					
			Concord, CA 94524					
			(415) 825-5622					
			Attention: Chuck Rounds					
			Other potential vendors contacted did not show capability or interest in manufacturing such a large unit.					
			It is very important that this unit be delivered by the end of April 1986, or as soon thereafter as possible. Mid April would be even better.					
			This is necessary to keep the original PCB project on schedule and avoid EPA fines.					
			Contact Jim Fletcher (x3674) for questions.					
			Specification Approved, Seattle Fire Dept.					
			ITEM 2-18 1986 purchase PLAN					
						cc: Fletcher		
						Croll ✓		
						Cuplin		
						Keys		
						Tenney		
						File		

DISTRIBUTION:
WHITE - Material Control
CANARY - Material Controller
PINK - Packing Slip/Receipt Information Originator
GREEN - NMR Reference File
GOLDENROD - Originator

FILLED BY	DATE	CHECKED BY	DATE	RECEIVED BY	DATE

CTY0068943

SFA315357

GENERAL SPECIFICATIONS

1.0 Dry Chemical Container

The dry chemical tank shall have a nominal capacity of 3,000 pounds and shall be of welded steel construction with two elliptical dished heads (either of one piece or segmented construction) with a welded circumferential seam.

The dry chemical tank shall be designed and constructed according to the latest ASME unfired pressure vessel code for a working pressure of 250 psi. It shall be stamped with the appropriate ASME code symbol.

The dry chemical tank shall be fitted with a gas tube arrangement to adequately fluidize the dry chemical, pressurize the dry chemical tank and maintain a nominally constant pressure in the tank during discharge. The gas tube shall be provided with a check valve to prevent any possibility of dry chemical back-up. The dry chemical tank shall be fitted with one 4 inch I.D. fill opening in the top head, and shall be provided with a discharge outlet suitable for the dry chemical line(s) supplied.

1.1 Fill Cap

The dry chemical tank shall be provided with one fill cap. The cap shall consist of a cast aluminum body equipped with two handles extending from opposite sides of the cap to permit hand tightening so that it is free from leakage under normal operating pressure without the use of tools. The cap shall be equipped with a 5/32 inch thick rubber gasket inserted in a machined recess.

A safety vent hole shall be located in the fill cap so that the cap will be pressure venting while at least 3-1/2 threads are still engaged.

1.2 Pressure Relief Valve

An approved ASME pressure relief valve shall be furnished to prevent the pressure in the tank from exceeding by 10 percent the maximum working pressure of the tank.

1.3 Dry Chemical

The dry chemical for this extinguisher shall be "Met-L-X" and shall be formulated and produced by the extinguisher manufacturer and meet the requirements of the extinguisher manufacturer. The dry chemical shall be furnished in metal pails with crimp-lock, water-tight replaceable covers.

1.4 Nitrogen Cylinders

Six 400 cubic foot Code DOT 3AA2400 nitrogen cylinder(s) shall be provided.

1.5 Nitrogen Cylinder Valve

Each nitrogen cylinder shall be provided with an Underwriters' Laboratories listed "Quick Opening" valve, having the following features:

- 1.5.1 To be opened manually from a remote location by means of pneumatic actuator.
- 1.5.2 To be opened manually at the valve by:
 - a) "Quick Opening" lever action
 - b) Conventional handwheel action
- 1.5.3 All three opening methods shall be independent and shall not interfere with each other.
- 1.5.4 The valve shall be provided with an integral safety relief set at 3600-4000 psi to relieve at 4000 psi maximum at 160°F.
- 1.5.5 The valve shall be manually closed by conventional handwheel action.
- 1.5.6 The valve shall be provided with an integral pressure gauge reading from 0 to 4000 psi, marked to show the operable range of pressure.
- 1.5.7 The valve shall be constructed of highly resistant materials throughout. All moving parts subject to wear shall be of hardened stainless steel.

1.6 Nitrogen Cylinder Storage

The nitrogen cylinder shall be securely carried in a horizontal position. The method of carrying shall be designed to permit easy access for operation and replacement of the cylinder.

1.7 Nitrogen Pressure Regulators

The nitrogen supply shall be directed through one regulator for each nitrogen cylinder. Each regulator shall be designed for an inlet pressure of 3000 psi and shall be set to deliver nitrogen at a reduced pressure of 220 to 240 psi. Each regulator shall be equipped with a spring loaded pressure relief valve and shall be connected to the nitrogen cylinder by 3/8 inch I.D. wire or polyester braid hose.

1.8 Valving and Piping

The valving and piping shall be installed so that for normal operation the nitrogen from the cylinder passes through the regulators and piping into the agent tank to adequately fluidize and pressurize the tank. The flow of the agent from the tank into the hose shall be controlled by a ball type valve.

Valving and piping shall be furnished so that after the extinguisher is used, the hose line(s) and turret may be cleared by venting the pressure from the top of the tank through hose line(s) and turret.

Piping and valving shall be arranged so that pressure from the nitrogen cylinder(s) may be directed through the hose line(s).

1.9 Hose Outlet

The dry chemical distribution outlet to the hose line(s) shall be assembled with 300 pound fitting, non-ferrous valve(s) - stainless steel internal parts acceptable - and non-ferrous hose adaptors. The assembly shall be painted one coat zinc chromate primer and a minimum of one coat flame red air dry enamel or (optional) epoxy primer and flame red epoxy finish coating (6-10 mils).

2.0 Dry Chemical Hose

The dry chemical hose line(s) shall consist of two one inch x 100 foot lengths. Each length of hose shall be horizontally braided with a maximum inside diameter expansion of 0.010" under a pressure of 200 psi. The twist shall not exceed 10-1/2 degrees in either direction under applicable U.L. tests. The outside cover stock shall be pin-pricked to permit diffusion of gases with four rows of holes for the entire length equally spaced on the circumference and one inch apart parallel to the axis. Holes shall be 1/32 inch deeper than the cover. A minimum of 25 effective holes per foot is required. The dry chemical hose shall be connected between the distribution piping from the dry chemical extinguisher and nozzle for control and direction of the dry chemical stream.

2.1 Nozzles

The dry chemical nozzle supplied for the hose line shall consist of a cast brass valve body and handle, with integral components of suitable non-ferrous metal or stainless steel.

The operating handle shall move in two positions - open and closed. The handle shall control the movement of a spherical shaped plug mounted to revolve about an axis perpendicular to the longitudinal axis of the nozzle so that the dry chemical stream may be selectively shut off or permitted to discharge in a straight line through the plug and nozzle. The bore of the plug and nozzle shall be of the same diameter.

The dry chemical stream shall be shaped by discharge through a nozzle chamber provided with a tip having a plurality of orifices arranged to produce individual streams of dry chemical for impingement against the inner wall of the chamber so that they are directed forward to merge and combine, outside the nozzle, to form a stream of dry chemical of high density and moderate range.

The nozzle provided shall have a discharge rate of approximately 7.0 pounds per second per hose line.

2.2 Hose Reel

The metal reel, manual rewind, shall be specifically designed for use with dry chemical hose. The reel shall be capable of holding the 100 feet of one inch hose specified per reel.

2.3 Actuation

A remote push lever pneumatic actuator system through use of a nitrogen filled cartridge shall be provided to open the nitrogen cylinder and energize the extinguishing system to the nozzles.

2.4 Reliability

The dry chemical extinguishing system shall be designed and manufactured by a company having at least five years experience in the design and manufacture of large capacity dry chemical hand hose line fire extinguishing equipment.

2.5 Paint

Surfaces to be protected from corrosion by special surface treatments, sand blasting, primer and red coating or optional epoxy primer and epoxy red coatings.